Remarks

Claim Rejections Under 35 U.S.C. 103

Examiner has rejected claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over applicant's disclosure of prior art, and further in view of United States Patent Number 6,362,424 to Honkomp et al.

Examiner states that the electrical variable optical attenuators disclosed by applicant in the Background of the Invention [sic] fail to disclose a terminal sleeve depending from a bottom face of an insulation plate an fitting into the positioning holes on the bottom wall of the attenuator housing with conductor terminals extending through the sleeves, and that Honkomp discloses a conductive pin assembly with multiple conductor terminals fitted with a sleeve to prevent electrical shorting of conductive pins to surrounding conductive areas (Column 1, lines 17-27). Examiner further states that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the cylindrical sleeve of Honkomp in the conductive pins of commonly used electric variable optical attenuator with a rubber insulator to prevent electrical shorting between conductive areas.

Applicant traverses Examiner's reasoning as follows:

Regarding claim 1, firstly, **Examiner has incorrectly characterized the electrical variable optical attenuators (EVOAs) disclosed by applicant in the "Description of Related Art" as only failing to disclose a terminal sleeve.** The present invention discloses a terminal holder comprising a plurality of conductive terminals and **an insulating plate to which the conductive terminals are secured**, and a **plurality of terminal sleeves depending from a bottom face of the insulating plate and fitting into the positioning holes of the bottom wall**

of the housing, the bottom face abutting against the bottom wall of the housing, said conductive terminals extending through the sleeves. Applicant discloses several conventional EVOAs whose conductive terminals are directly fixed into a plurality of positioning holes in a bottom wall of a housing of an attenuator, with gaps between the terminals and the housing being sealed by glass fillers. The glass fillers necessitate the disadvantage of a high temperature process being required during manufacturing of the conventional EVOAs. However, the conductive terminals of the present invention are firstly fixed into **the terminal sleeves of the insulating plate**, and **the insulating plate** is then fixed into the positioning holes in the bottom wall of the housing by **the terminal sleeves**. Gaps between the terminals and the housing of the present invention are sealed by **the terminal sleeves,** with no need for a high temperature process. The conventional EVOAs fail to disclose **the insulating plate** and **the terminal sleeves depending from a bottom face of the insulating plate** for sealing gaps between terminals and a housing. In other words, the conventional EVOAs fail to disclose **an insulating plate with a plurality of terminal sleeves**.

Secondly, **Examiner has incorrectly characterized Honkomp as disclosing multiple conductor terminals fitted with a sleeve.** Examiner states that Honkomp discloses a conductive pin assembly with multiple conductor terminals fitted with a "sleeve" to prevent electrical shorting of conductive pins to surrounding conductive areas (Column 1, lines 17-27). However, this very citation goes on to explain that the conductive pin assembly is recorded in U.S. Pat. No. 4,584,433 to B. Bowsky et al. and in U.S. Pat. No. 5,471,015 to F. Dieter Paterek, et al. (Column 1, lines 26-30). A reading of both these patents in fact shows that the structures therein each are a plurality of terminals of the conductive pin assembly being directly fitted in a housing by sealing gaps with glass fillers (see Fig. 1 of B. Bowsky et al. and Fig. 1 of F. Dieter Paterek, et al.). In each case,

even though every terminal of the conductive pin assembly engages with an individual "**sleeve,**" the "**sleeve**" is made of ceramic material and serves as an electrically insulating element (see, e.g., column 3, line 8-11 of B. Bowsky et al.). In summary, Honkomp, B. Bowsky et al. and F. Dieter Paterek, et al. fail to disclose **the insulating plate,** and **terminal sleeves depending from a bottom face of the insulating plate** for sealing gaps between terminals and a housing.

Thirdly, **the present invention cannot be directly derived from applicant's disclosure of prior art, and further in view of Honkomp.** This is because both the conventional EVOAs in the Description of Related Art of the present invention and Honkomp fail to disclose **the insulating plate with the terminal sleeves** for sealing gaps between terminals and a housing. That is, **the present invention provides a structure over and above any assumed combination of applicant's disclosure of prior art with Honkomp.**

Fourthly, **the objects of the present invention cannot be achieved by the mere combination of the EVOAs disclosed in the Description of Related Art of the present invention with Honkomp.** The objects of the present invention are to provide an electrical variable optical attenuator having improved sealing, and to provide an electrical variable optical attenuator which is inexpensive to manufacture. The conductive terminals of both the conventional EVOAs and Honkomp are directly fixed into positioning holes of a housing and sealed by glass fillers; therefore any combination of the conventional EVOAs and Honkomp must likewise have the structure of fixing and sealing the terminals by use of glass fillers. Accordingly, the combination of the conventional EVOAs and Honkomp would still necessitate the disadvantage of a high temperature process being required, and resulting high manufacturing costs. The objects of the present invention could not be attained, said objects embodying the new, substantial benefits obtained by the present invention.

In summary, the electrical variable optical attenuator of the present invention cannot reasonably be derived from any combination of the disclosed conventional EVOAs in view of Honkomp, and would not have been obvious to one of ordinary skill in the art. Claim 1 is submitted to be patentable, and withdrawal of the rejection and allowance of the claim are respectfully requested.

Claims 2-9 directly or indirectly depend from independent claim 1. Therefore, allowance of claims 2-9 is also respectfully requested.

Regarding claim 10, applicant traverses Examiner's rejection as follows:

Firstly, **the present invention cannot be directly derived from applicant's disclosure of prior art, and further in view of Honkomp**, as asserted above with respect to claim 1.

Secondly, **the objects of the present invention cannot be achieved by any combination of the EVOAs in the Description of Related Art of the present invention and Honkomp**, as asserted above with respect to claim 1.

Accordingly, the electrical variable optical attenuator provided in claim 10 is unobvious over the cited references. Claim 10 is submitted to be patentable, and withdrawal of the rejection and allowance of the claim are respectfully requested.

In view of the above remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,
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